

Work Order ID 70659

Friday, June 10, 2011 4:14:58 PM



Page 1

Item ID: D3391-025

Accept



Setup Start



Revision ID:

Item Name: Aft Tube Assembly

Stop



Start Date: 6/10/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 6/30/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan: *huf*

Date: *11-06-10*

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

D3391

Rev H/ DEO

100

0.00



MORI SEIKI CNC LATHE LARGE

Mori Seiki

Memo

0.00

Mori Seiki CNC Lathe Large

Turn as per Folio FA599

Rev: *AA* & Dwg D3391 Rev: *H*

MMC 11/06/15

scribe batch # on fwd end at 90 degree

110

0.00



QC2- Inspect parts off machine FAI/FAIB

QC

Memo

0.00

Quality Control

111

0.00



QC8- Inspect parts - second check

QC

Memo

0.00

Quality Control

Re 11-6-12

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			






NOTE: Date & initial all entries



Work Order ID 70659




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Item ID: D3391-025 Accept  Setup Start 
Revision ID: Stop 
Item Name: Aft Tube Assembly
Start Date: 6/10/2011 Start Qty: 1.00  Cust Item ID:
Required Date: 6/30/2011 Req'd Qty: 1.00  Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start 
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop 

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120  HAAS 1 HAAS CNC vertical machine #1	HAAS CNC VERTICAL MACHINING #1 Memo 1-Machine as per Folio FA 599 Rev: <u>AA</u> & Dwg D3391 Rev: <u>H</u> 2-Deburr	0.00 0.00		B.A 11/06/20		1	0		
130  QC Quality Control	QC2- Inspect parts off machine FAI/FAIB Memo	0.00 0.00		B.A 11/06/20		1	0		
140  QC Quality Control	QC8- Inspect parts - second check Memo	0.00 0.00		21/06/22		1	0		

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Item ID: D3391-025

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Revision ID:

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Start Date: 6/10/2011 Start Qty: 1.00

Cust Item ID:

Required Date: 6/30/2011 Req'd Qty: 1.00

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

150



Skidtubes

Skidtubes

0.00

Memo

0.00

1-Drill (PILOT HOLE) aft cap holes per Dwg D3391 using DT8803

WL
11/06/22

160



CNC Bend 1

BENDING MACHINE - SKIDTUBES

0.00

Memo

0.00

Form as per Dwg D3391 Using Bend Prog 3391025

*DP**11-6-22*

170



QC

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

*H 4:25**1 0 2E11/06/22*

Quality Control

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Revision ID:

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Item Name: Aft Tube Assembly

Start Date: 6/10/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 6/30/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

180

0.00



Skidtubes

Skidtubes

Memo

0.00

Skidtubes

1-Open Aft cap pilot hole to .208" as per Dwg D3391

2-Drill float bag holes using DT8809 as per Dwg D3391(Holes marked "A" Only.

3-Drill wearplate holes as per Dwg D3391 using DT8878(Mid Tube) & DT8217
Wearplate Jig.

*****Do Not Open To Finished Size*****

4-Drill Wearshoe holes as per DWG D3391 using DT8939 locating from 2
previously drilled aft wearplate holes.

5-Open wearplate holes to 0.250" and c'bore as per dwg D3391

6-Open up all wearshoe, wearplate to 0.297" and float bag holes to 0.328" as per
Dwg D3391.

7-Deburr

Handwritten notes and signatures:

- Large handwritten "B" with a checkmark.
- Handwritten "11-6-22".
- Handwritten "u/6/23".
- Handwritten "oh u/06/23".

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Cust Item ID:

Required Date: 6/30/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start



QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool # Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

190

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Sub 6/23

Quality Control

200

Chemical Conversion Coat per QS1005 4.1

0.00



HandFinish

Memo

0.00

SAA 11-06-23

①

Hand Finishing

210

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

1 0 BE 11/06/23

Quality Control

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng./ Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Item ID: D3391-025

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Revision ID:

Stop



Item Name: Aft Tube Assembly

Start Date: 6/10/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 6/30/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

220

0.00



Skidtubes

Skidtubes

Memo

0.00

Instal spacers as per dwg D3391
A/R Magnabond 6398 Batch: M 116945
exp. date: 12/01/15
cure time 12hrs as per QSI0015

XLWh
11/06/27

230

0.00



QC

QC5- Inspect part completeness to step on W/O

Memo

0.00

Quality Control

S wlo6124

235

0.00



HandFinish

Pressure Wash per QSI005 4.3

Memo

0.00

AND REALODINE AS PER PAR09-043

Hand Finishing

IX Ø M-L 11/06/27

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Work Order ID 70659

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Item ID: D3391-025

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Setup Start



Revision ID:

Stop



Item Name: Aft Tube Assembly

Start Date: 6/10/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 6/30/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

240

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00



Powdercoat

Memo

START TIME:

OVEN TEMPERATURE:

FINISH TIME:

11:45
320 OF
12:15

0.00

Powder Coating

250

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

260

HandFinishing

0.00



HandFinish

Memo

0.00

Hand Finishing

1-Install inserts as per Dwg D3391
2-Install Aft Cap as per Dwg D3391A/ R Sikaflex-241/-291 M113516
Sikaflex expiry date: 12/10

12 0 11/06/27

1 0 11/06/27

1 0 11/06/27

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Work Order ID 70659

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Item ID: D3391-025

Accept



Setup Start



Revision ID:

Stop



Item Name: Aft Tube Assembly

Start Date: 6/10/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 6/30/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
270 QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.00							
280 Packaging Packaging	Identify as per dwg & Stock Location: <u>w/o</u> Memo	0.00 0.00							
290 QC Quality Control	QC21- Final Inspection - Work Order Release Memo	0.00 0.00							

8 w/o 6/28

D 412-742-043/B70642

1 6 11 w/o 6/28

11/6/28 JJ

R 11-06-28
①

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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NOTE: Date & initial all entries

Picklist Print

Friday, June 10, 2011 4:14:55 PM

Page 1

Work Order ID: 70659

Parent Item: D3391-025

Parent Item Name: Aft Tube Assembly




Start Date: 6/10/2011

Required Date: 6/30/2011

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev B 06-02-07 ECN773 dwg rev. D EC
 IPP Rev:C 06-03-28 Update Manuf. Instructions JLM ☐ ☐ ☐
 IPP rev D 07.03.20 revF dwg EC
 IPP rev E 07.11.07 rev G dwg ecn 1053p EC verified by: DD
 IPP Rev:F 07-11-13 ECN 1056 DD verified by: EC
 IPP Rev:G 08-09-10 revH as per dwg DD verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6014-090  ALUMINUM EXTRUSION		Manufactured	No			100	Each	3.0000	1	1			
<div> <div>Location</div> <div>Loc Qty</div> <div>Loc Code</div> </div>													
<div> <div>LG</div> <div>3</div> <div></div> </div>													
<div> <div>86572</div> <div>3</div> <div></div> </div>													
D3670-4-200  SPACER		Manufactured	No			230	Each	31.0000	4	4			
<div> <div>Location</div> <div>Loc Qty</div> <div>Loc Code</div> </div>													
<div> <div>LG</div> <div>31</div> <div></div> </div>													
<div> <div>68950</div> <div>31</div> <div></div> </div>													
<div> <div>70822</div> <div>270</div> <div></div> </div>													
D2646  Aft Cap		Manufactured	No			270	Each	24.0000	1	1			
<div> <div>Location</div> <div>Loc Qty</div> <div>Loc Code</div> </div>													
<div> <div>FP006</div> <div>23</div> <div></div> </div>													
<div> <div>62678</div> <div>23</div> <div></div> </div>													
<div> <div>FP-4</div> <div>1</div> <div></div> </div>													
<div> <div>69019</div> <div>1</div> <div></div> </div>													

9mm L 11/06/15

11/06/23

11/06/27

81

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Picklist Print

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Page 2

Work Order ID: 70659



Parent Item: D3391-025



Parent Item Name: Aft Tube Assembly

Start Date: 6/10/2011

Required Date: 6/30/2011

Start Qty: 1.00

Required Qty: 1.00

D3537-1

Manufactured No

270

Each

51.0000

1

1



Wearpad



xl 11/06/27

Location

Loc Qty

Loc Code

FP017

51

69817

51

1369278

xl

D3537-7

Manufactured No

270

Each

1.0000

1

1



Wearpad



xl 11/06/27

Location

Loc Qty

Loc Code

FP017

1

65146

1

1369320

xl

D3553-1

Manufactured No

270

Each

13.0000

1

1



Gasket



xl 11/06/27

Location

Loc Qty

Loc Code

FP013

13

56568

13

xl

D3553-3

Manufactured No

270

Each

37.0000

1

1



Gasket



xl 11/06/27

Location

Loc Qty

Loc Code

FP

20

31631

20

FP013

17

53480

17

xl

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Picklist Print

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Work Order ID: 70659



Parent Item: D3391-025



Parent Item Name: Aft Tube Assembly

Start Date: 6/10/2011

Required Date: 6/30/2011

Start Qty: 1.00

Required Qty: 1.00

D3672-1 Manufactured No

270 Each

1,176.000 2 2



Phenolic Washer



1106127

Location

Loc Qty

Loc Code

ST074

1150

64177

650

1106127

66821

500

ST077

26

52505

26

ALS4-1032-130 Purchased No

260 Each

1,634.000 14 14



Insert



1106127

Location

Loc Qty

Loc Code

ST281

8

117331

8

ST282

1626

117717

1626

1106127

ALS4-1032-225 Purchased No

270 Each

1,239.000 12 12



Insert



1106127

Location

Loc Qty

Loc Code

ST282

1239

110768

439

117717

800

1106127

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Work Order ID: 70659



Parent Item: D3391-025



Parent Item Name: Aft Tube Assembly

Start Date: 6/10/2011

Required Date: 6/30/2011

Start Qty: 1.00

Required Qty: 1.00

AN3C4A Purchased No

270

Each

1,929.000

6

6



BOLT



yl 11/06/27

Location

Loc Qty

Loc Code

ST350

1929

117094

427

KA118112

x6

117313

2

117688

800

117795

500

117872

200

AN3C5A Purchased No

270

Each

1,761.000

4

4



Bolt



yl 11/06/27

Location

Loc Qty

Loc Code

FP-A

7

115835

7

ST350

1754

116419

100

116549

54

117343

500

117508

300

117764

300

117872

500

x4

AN960C10L NAS1149C0332 Purchased No

270

Each

0.0000

10

10



washer

M118078



(x10) yl 11/06/27

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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DART AEROSPACE LTD		Work Order:	70659
Description: Float Skidtube (412)		Part Number:	D3391-3
Inspection Dwg: D3391 Rev: H		Page 1 of 1	

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Lathe Section						
14.000	+/-0.010	14.000	✓		Tape	MM L-02
3.500	+/-0.010	3.504	✓		Vern	JA-01
88.93	+/-0.030	88.93	✓		Tape	MM L-02
44.995	+/-0.030	44.965	✓		"	"
Ø3.200	+/-0.010	3.205	✓		Vern	ML-07
88.93	+/-0.030	88.930	✓		Tape	MM L-02
Ø3.750	+/-0.010	3.750	✓		Vern	ML-07
30° x 160" chamfer	+/-0.010	30° x 160"	✓		"	"

Measured by: *MM L* *CR*

Date: 11/06/15

Audited by: *PO*

Date: 11-6-16

HAAS Section						
1.526	+0.000/-0.030	1.510	✓		Vern	GA-01
7.500	+/-0.010	7.501	✓		Vern	CNC-02
27.750	+/-0.010	27.750	✓		TAPE	GA-12
31.750	+/-0.010	31.750	✓		"	"
35.250	+/-0.010	35.250	✓		"	"
3.300	+/-0.010	3.304	✓		Vern	GA-01
0.200	+/-0.010	0.201	✓		"	"
3.520	+/-0.010	3.522	✓		Mic	GA-10
0.687	+0.010/-0.000	0.690	✓		Vern	GA-01
R0.062	+/-0.010	R0.063	✓		R-6	RF.
Ø0.484	+0.005/-0.001	0.488	✓		Vern	GA-01

Measured by: *PO*

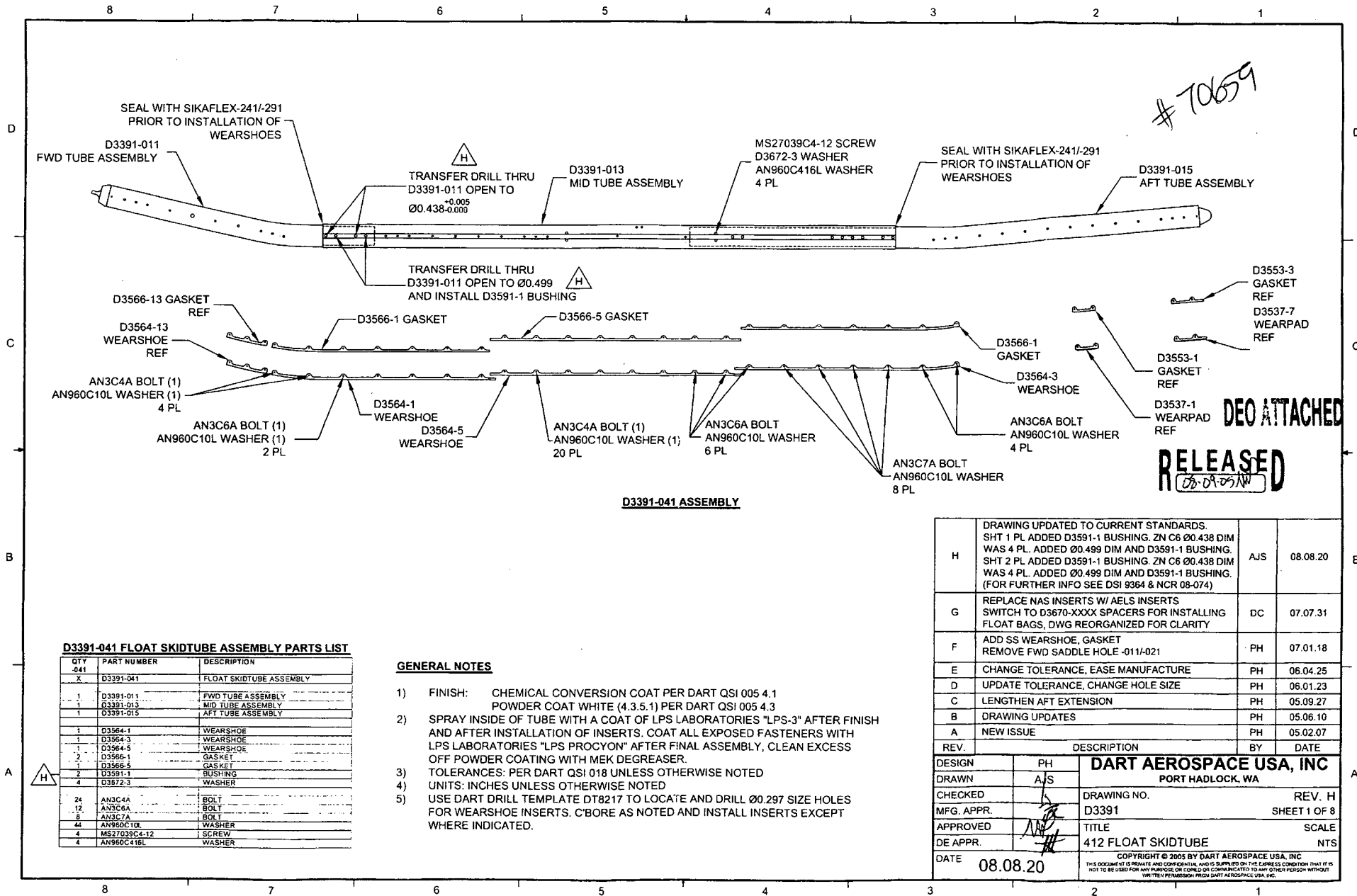
Date: 11/06/20

Audited by: *CR*

Date: 11/06/22

Rev	Date	Change	Revised by	Approved
A	06.04.24	New Issue P/O D3391-015/-025	KJ/JLM	
B	06.06.19	Dwg revision update	KJ/JLM	
C	07.04.20	Ø0.208 dimension removed	KJ/JLM	
D	07.09.06	0.400 dimension removed	KJ/JLM	
E	07.11.23	Dwg Rev. updated	KJ/EC/DD	
F	09.04.27	Dimensions updated per Rev H and NCR09-028	KJ/JLM	
G	09.11.16	Dimension 0.200 removed	KJ	





D3391-041 FLOAT SKIDTUBE ASSEMBLY PARTS LIST

QTY	PART NUMBER	DESCRIPTION
1	D3391-041	FLOAT SKIDTUBE ASSEMBLY
1	D3391-011	FWD TUBE ASSEMBLY
1	D3391-013	MID TUBE ASSEMBLY
1	D3391-015	AFT TUBE ASSEMBLY
1	D3564-1	WEARSHOE
1	D3564-3	WEARSHOE
1	D3564-5	WEARSHOE
2	D3566-1	GASKET
1	D3566-5	GASKET
2	D3591-1	BUSHING
4	D3672-3	WASHER
24	AN3C4A	BOLT
12	AN3C6A	BOLT
8	AN3C7A	BOLT
44	AN960C10L	WASHER
4	MS27039C4-12	SCREW
4	AN960C416L	WASHER

GENERAL NOTES

- 1) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 2) SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL Ø0.297 SIZE HOLES FOR WEARSHOE INSERTS. C'BORE AS NOTED AND INSTALL INSERTS EXCEPT WHERE INDICATED.

H	DRAWING UPDATED TO CURRENT STANDARDS. SHT 1 PL ADDED D3591-1 BUSHING. ZN C6 Ø0.438 DIM WAS 4 PL. ADDED Ø0.499 DIM AND D3591-1 BUSHING. SHT 2 PL ADDED D3591-1 BUSHING. ZN C6 Ø0.438 DIM WAS 4 PL. ADDED Ø0.499 DIM AND D3591-1 BUSHING. (FOR FURTHER INFO SEE DSI 9364 & NCR 08-074)	AJS	08.08.20
G	REPLACE NAS INSERTS W/ AELS INSERTS SWITCH TO D3670-XXXX SPACERS FOR INSTALLING FLOAT BAGS, DWG REORGANIZED FOR CLARITY	DC	07.07.31
F	ADD SS WEARSHOE, GASKET REMOVE FWD SADDLE HOLE -011/021	PH	07.01.18
E	CHANGE TOLERANCE, EASE MANUFACTURE	PH	06.04.25
D	UPDATE TOLERANCE, CHANGE HOLE SIZE	PH	06.01.23
C	LENGTHEN AFT EXTENSION	PH	05.09.27
B	DRAWING UPDATES	PH	05.06.10
A	NEW ISSUE	PH	05.02.07
REV.	DESCRIPTION	BY	DATE
DESIGN	PH	DART AEROSPACE USA, INC PORT HADLOCK, WA	
DRAWN	AJS	DRAWING NO.	REV. H
CHECKED		D3391	SHEET 1 OF 8
MFG. APPR.		TITLE	SCALE
APPROVED		412 FLOAT SKIDTUBE	NTS
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DATE	08.08.20		

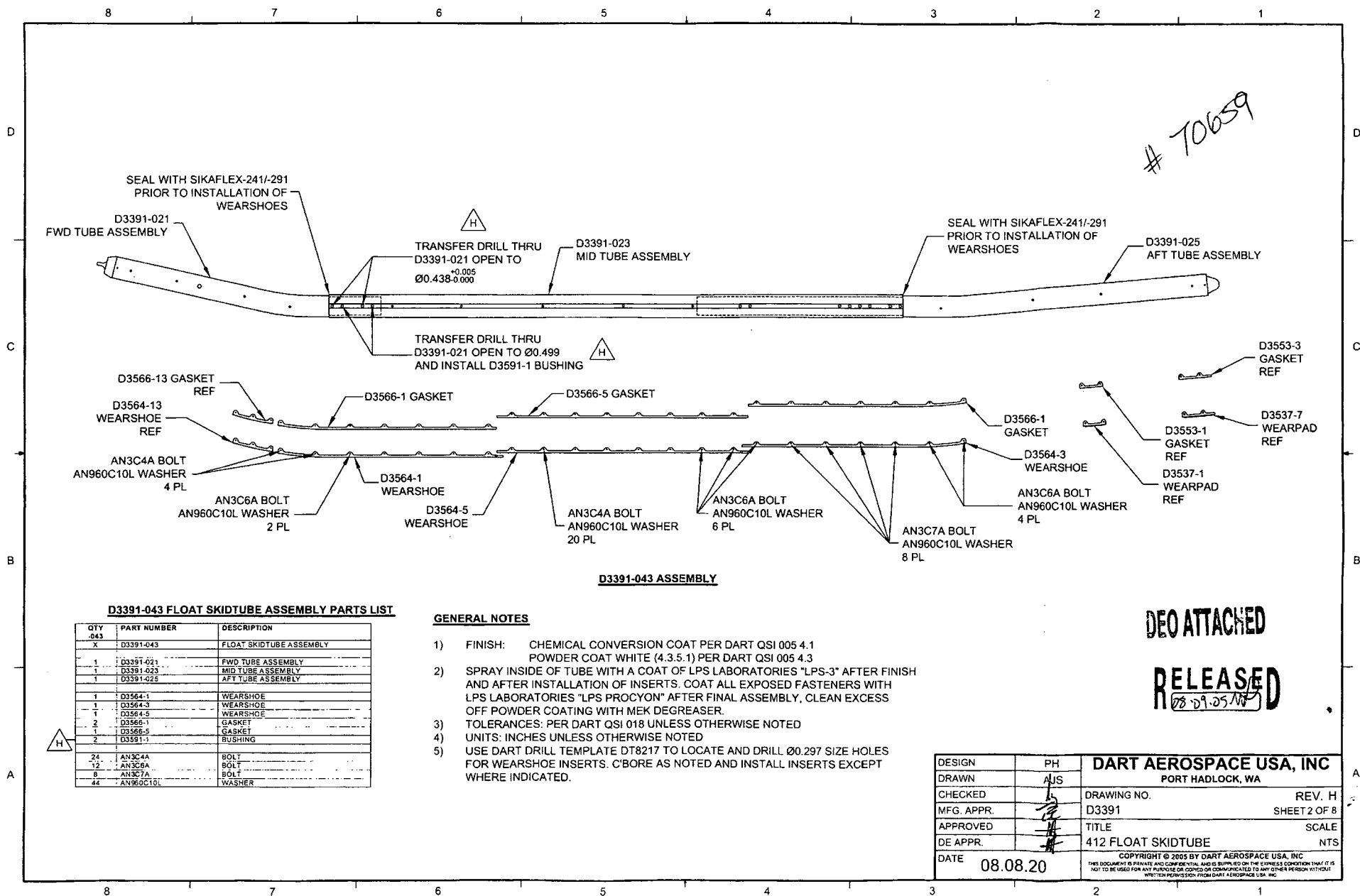
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



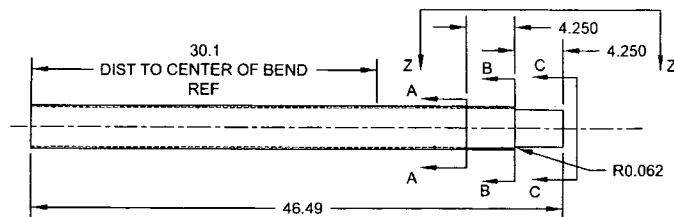
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

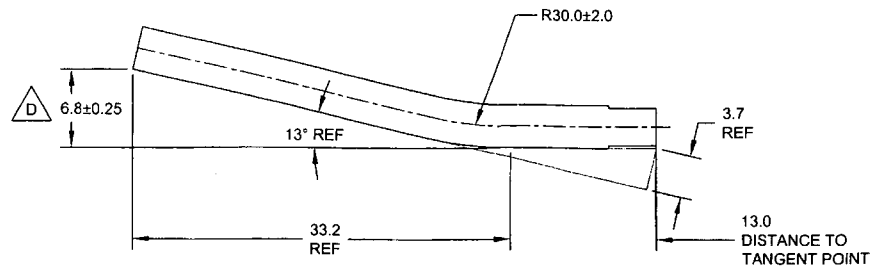
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

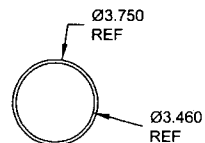
NOTE: Date & initial all entries



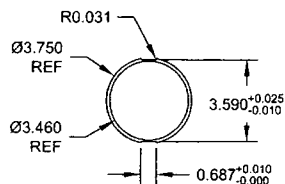
D3391-1 CUTTING DETAIL
(MAKE FROM D6013-047 SKIDTUBE MATERIAL)



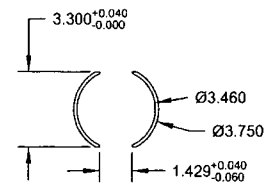
D3391-011/-021 BENDING DETAIL
(MAKE FROM D3391-1)



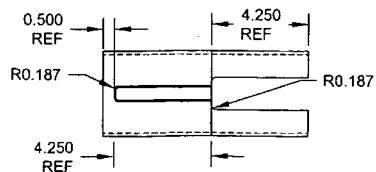
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SCALE 2X



SECTION B-B
SCALE 2X



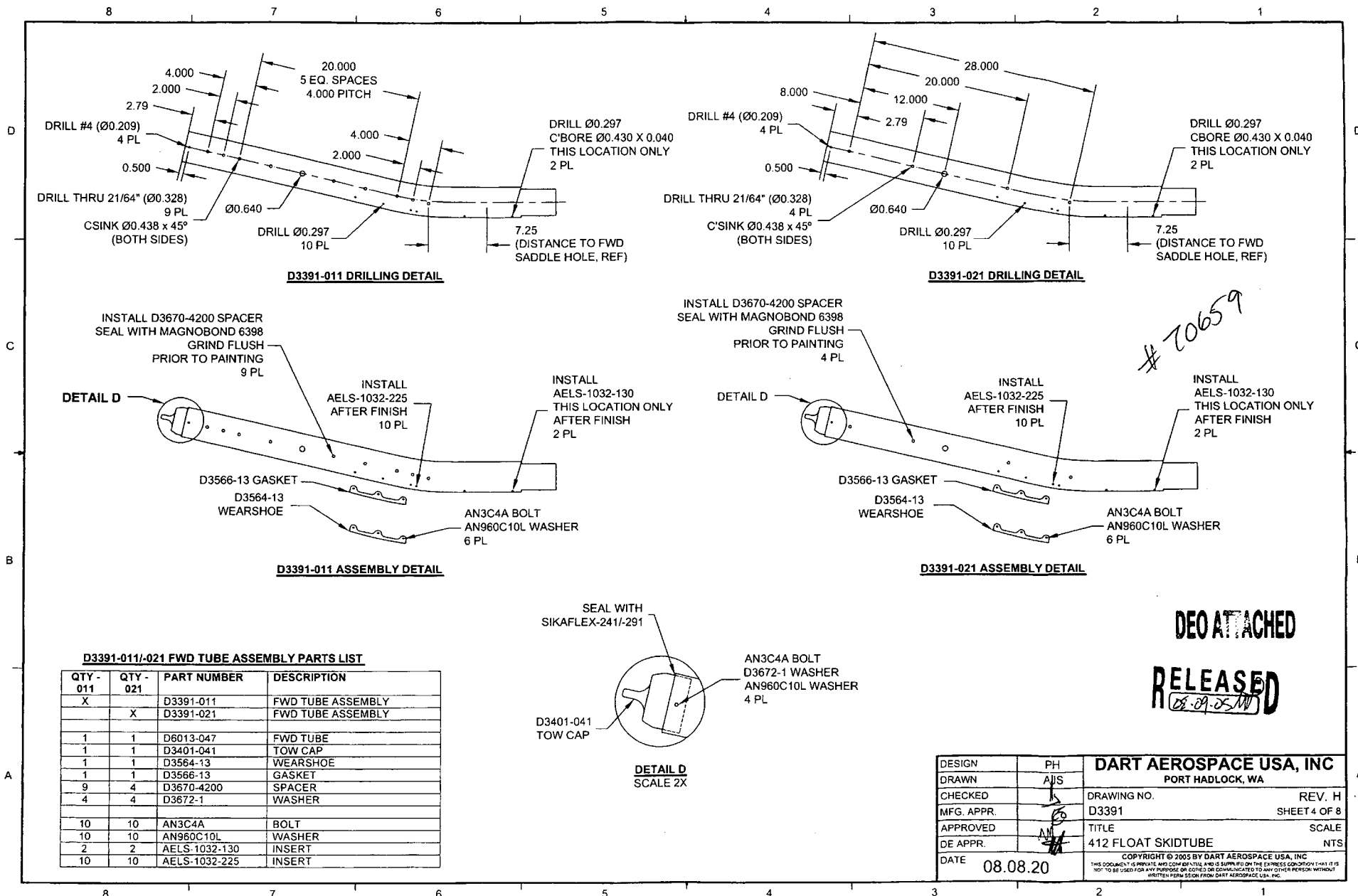
SECTION C-C
SCALE 2X

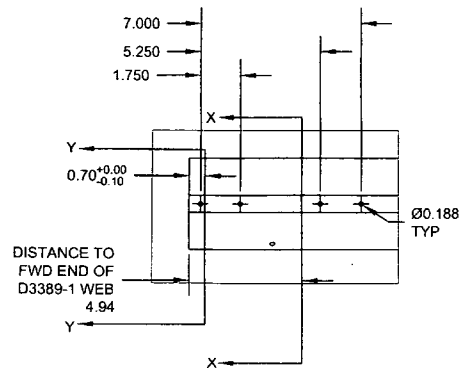


VIEW Z-Z
SCALE 2X

DEO ATTACHED
RELEASED
28-05-11

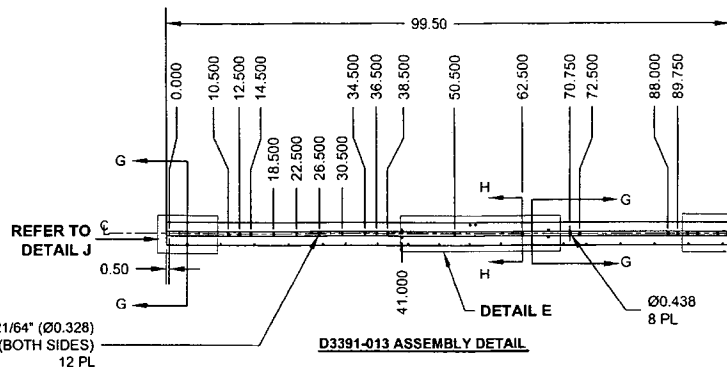
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DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. H
MFG. APPR.		D3391	SHEET 3 OF 8
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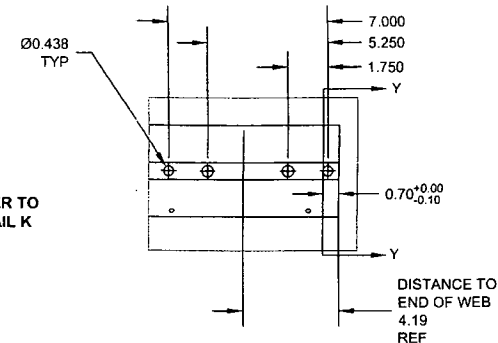


DETAIL J
SCALE 4X

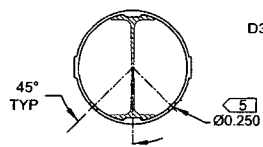
DRILL THRU 21/64" (Ø0.328)
CSINK Ø0.438 X 45° (BOTH SIDES)
12 PL



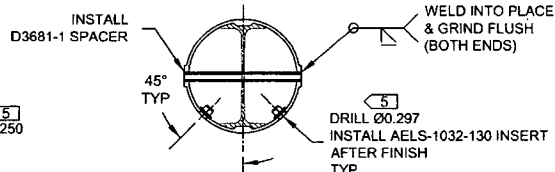
D3391-013 ASSEMBLY DETAIL



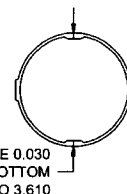
DETAIL K
SCALE 4X



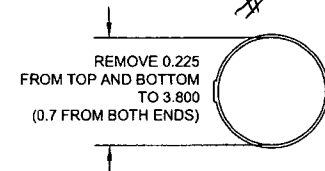
SECTION G-G
SCALE 5X



SECTION H-H
SCALE 5X



SECTION X-X
SCALE 5X

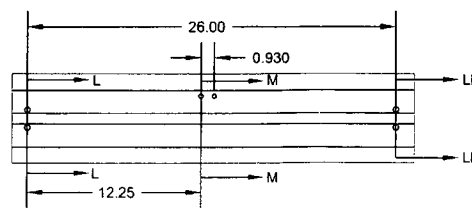


SECTION Y-Y
SCALE 5X

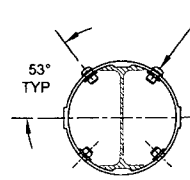
DRILL Ø0.297
INSTALL AELS-1032-130 INSERT
MS27039C1-09 SCREW
D3672-1 WASHER
AN960C10L WASHER
AFTER FINISH
4 PL

D3391-013 MID TUBE ASSEMBLY PARTS LIST

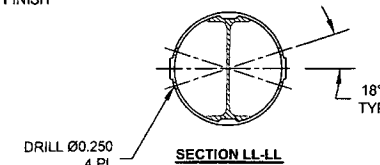
QTY	PART NUMBER	DESCRIPTION
-013		
X	D3391-013	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
4	D3672-1	WASHER
4	D3672-3	WASHER
12	D3681-1	SPACER
24	AELS-1032-130	INSERT
4	ALS4-428-165	INSERT
4	AN960C10L	WASHER
4	AN960C416L	WASHER
4	MS27039C1-09	SCREW
4	MS27039C4-08	SCREW



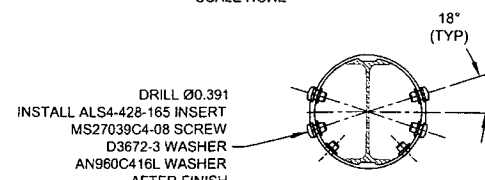
DETAIL E
SCALE NONE



SECTION M-M
SCALE 5X



SECTION LL-LL
SCALE 5X



SECTION L-L
SCALE 5X

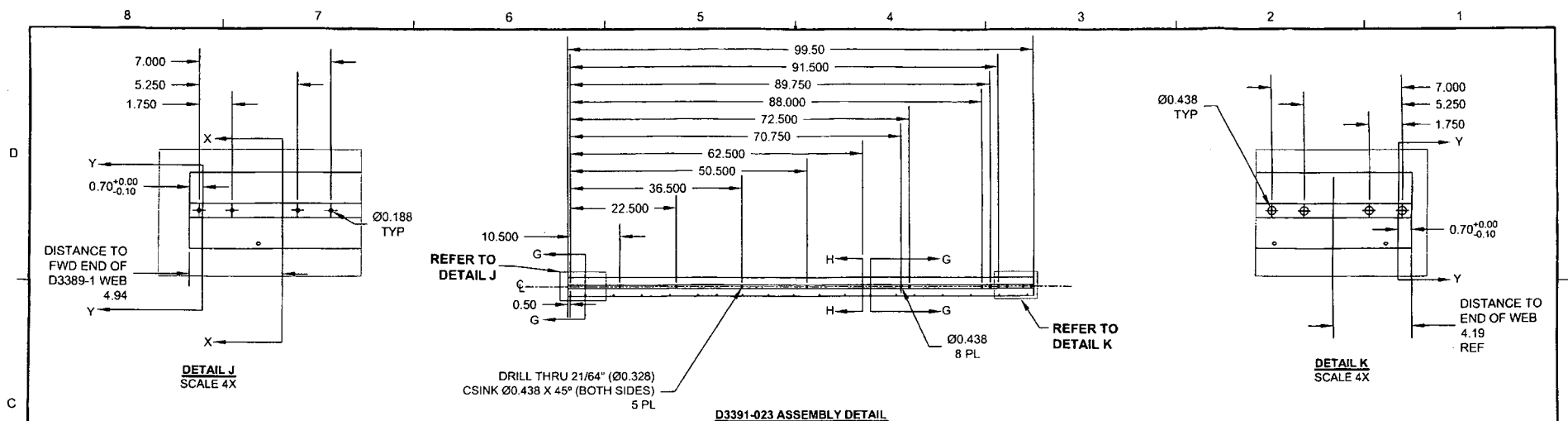
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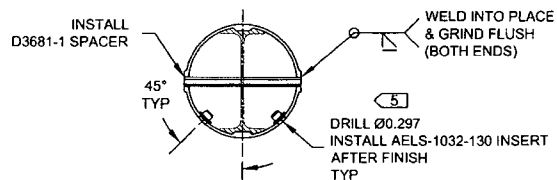
D3391-013 MID TUBE ASSEMBLY

- 1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
- 2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/291 PER QSI 015
- 3) WELDING: PER DART QSI 004

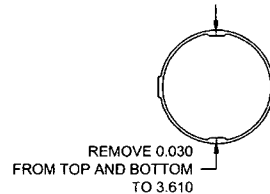
DESIGN	PH	DART AEROSPACE USA, INC	
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MFG. APPR.		D3391	SHEETS OF 8
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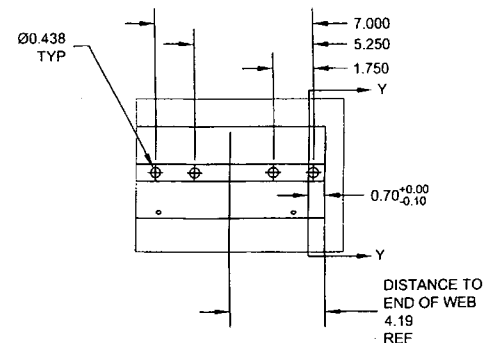
SECTION G-G
SCALE 5X



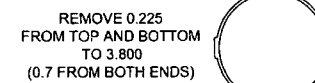
SECTION H-H
SCALE 5X



SECTION X-X
SCALE 5X



DETAIL K
SCALE 4X



SECTION Y-Y
SCALE 5X

#70659

DEO ATTACHED
RELEASED
08-09-05-14

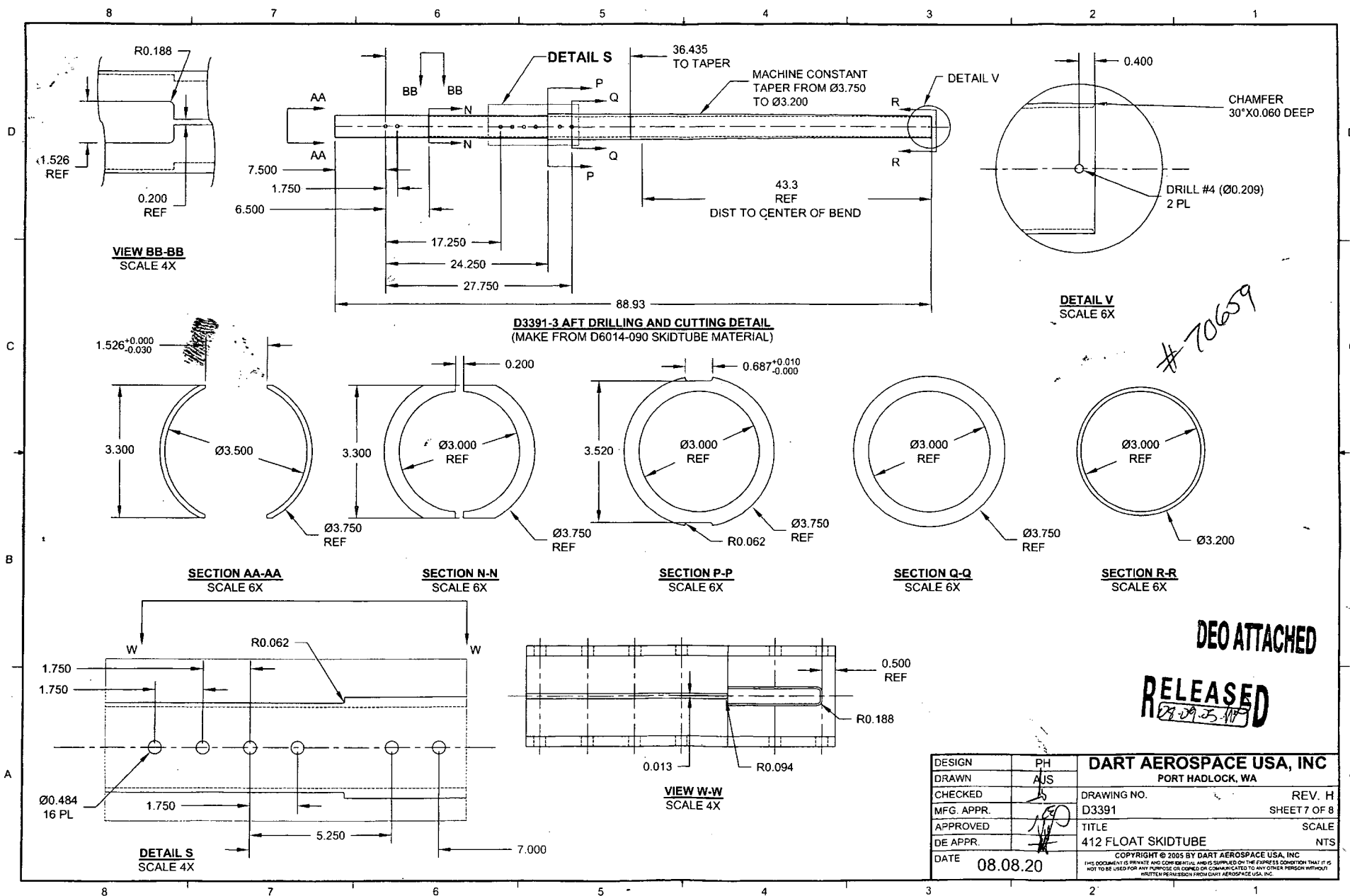
D3391-023 MID TUBE ASSEMBLY PARTS LIST

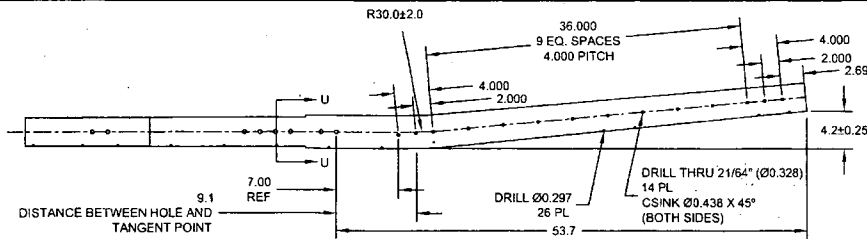
QTY - 023	PART NUMBER	DESCRIPTION
X	D3391-023	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
5	D3681-1	SPACER
20	AELS-1032-130	INSERT

D3391-023 MID TUBE ASSEMBLY

- 1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
- 2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/291 PER QSI 015
- 3) WELDING: PER DART QSI 004

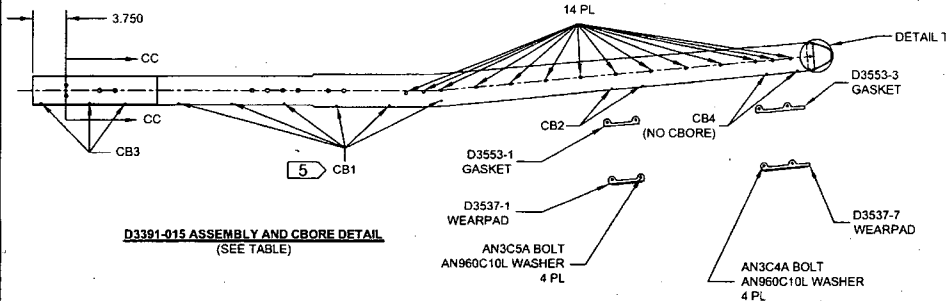
DESIGN	PH	DART AEROSPACE USA, INC	
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MFG. APPR.		D3391	SHEET 6 OF 8
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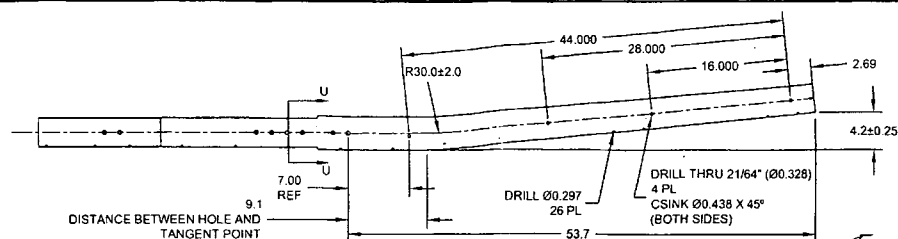


D3391-015 BENDING AND DRILLING DETAIL
(SEE CBORE DETAIL BELOW)

INSTALL D3670-4200 SPACER
SEAL WITH MAGNOBOND 6398
GRIND FLUSH
PRIOR TO PAINTING
14 PL

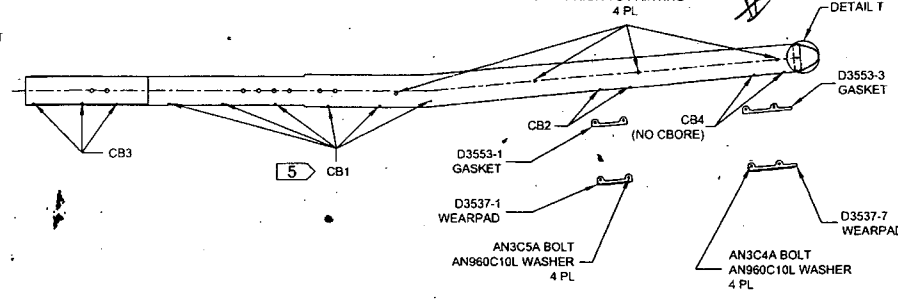


D3391-015 ASSEMBLY AND CBORE DETAIL
(SEE TABLE)



D3391-025 BENDING AND DRILLING DETAIL
(SEE CBORE DETAIL BELOW)

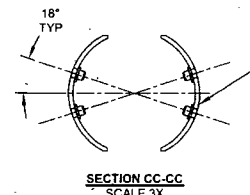
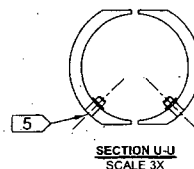
INSTALL D3670-4200 SPACER
SEAL WITH MAGNOBOND 6398
GRIND FLUSH
PRIOR TO PAINTING
4 PL



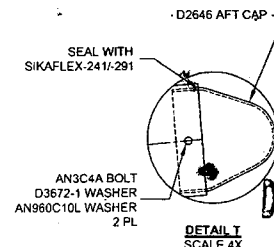
D3391-025 ASSEMBLY AND CBORE DETAIL
(SEE TABLE)

D3391-015/-025 AFT TUBE ASSEMBLY PARTS LIST

QTY - 015	QTY - 025	PART NUMBER	DESCRIPTION
X		D3391-015	AFT TUBE ASSEMBLY
	X	D3391-025	AFT TUBE ASSEMBLY
1	1	D6014-090	AFT TUBE
1	1	D2646	AFT CAP
1	1	D3537-1	WEARPAD
1	1	D3537-7	WEARPAD
1	1	D3553-1	GASKET
1	1	D3553-3	GASKET
14	4	D3670-4200	SPACER
2	2	D3672-1	WASHER
14	14	AELS-1032-130	INSERT
12	12	AELS-1032-225	INSERT
4		ALS4-428-165	INSERT
6	6	AN3C4A	BOLT
4	4	AN3C5A	BOLT
10	10	AN960C10L	WASHER



DRILL Ø0.391
CBORE Ø0.516 X 0.040 DEEP
INSTALL ALS4-428-165 INSERT
4 PL



DEO ATTACHED

RELEASED
08-09-05/10

CBORE HOLES MARKED CB1-CB4 AS FOLLOWS AND
INSTALL AELS-1032-XXX AFTER FINISH AS NOTED

HOLES MARKED	QTY D3391-015	QTY D3391-025	CBORE	P/N
CB1	12	12	Ø0.430 X 0.170	AELS-1032-225
CB2	4	4	Ø0.430 X 0.170	AELS-1032-130
CB3	6	6	Ø0.430 X 0.040	AELS-1032-130
CB4	4	4	NONE	AELS-1032-130

DESIGN	PH	DART AEROSPACE USA, INC	
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CHECKED		DRAWING NO.	REV. H
MFG. APPR.		D3391	SHEET 8 OF 8
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DRAWING NO. D3391	TITLE 412 FLOAT SKIDTUBE	REV. H	DART AEROSPACE USA, INC ENGINEERING ORDER		D.E.O. NO. D3391-H-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>CP</i>	CHECKED <i>h</i>	MFG. APPR. <i>MA</i>	APPROVED <i>MP</i>		DE APPR. <i>MP</i>		
DATE 09.09.23	DATE 04.04.24	DATE 09/09/25	DATE 09/09/30		DATE 09/09/30		

PURPOSE:

LPS-3 IS NO LONGER USED DURING ASSEMBLY OF D3391-041/-043 SKIDTUBES.

CHANGE:

AMEND NOTE 2 OF D3391-041/-043 SKIDTUBE ASSEMBLIES (ZN A6-1, A6-2) AS FOLLOWS:

- 2) ~~SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH~~
~~AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH~~
 LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS
 OFF POWDER COATING WITH MEK DEGREASER.

RELEASED
 2010-02-02

MP

#70659

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